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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,165	03/11/2004	Will Freeman	83231	1044

24129 7590 05/09/2005  
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EXAMINER

LEE, BENNY T

ART UNIT PAPER NUMBER

2817

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



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RECEIVED DATE

APR 1981

- ☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire three (3) month(s) \_\_\_\_\_ days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 135

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.                  |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-21 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☒ Claims 11-16; 17-20 are allowed.
4. ☒ Claims 1-4, 8, 9, 21 are rejected.
5. ☒ Claims 5-7, 10 are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_ Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_ has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_, filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1956 C.D. 11; 453 O.G. 213.
14. ☐ Other \_\_\_\_\_

The disclosure is objected to because of the following informalities: Page 1, line 22, note that reference to "a coplanar fuse" is vague in meaning and needs clarification. Page 3, line 15 and page 4, line 21, note that "which is a short approximately  $\lambda g/4$ " needs rephrasing for clarity of description. Pages 5-7, note that for the collective description of figs. 1, 2a, and 2b, note that appropriate reference labels should be correspondingly reference to those drawing figures in which they actually appear for consistency of description. Examples include: "L1" in --(Fig. 2a)--;  $[L_2, Z_{coax}, Z_t(L_2)]$  in --(fig. 2b)--; etc. Page 6, line 3, note that "shorted" should be rephrased as --short circuited-- for clarity of description. Page 7, in equation (1) and (2), note that the terms and parameters therein need to be strictly defined. Note that reference label "10" needs description in figs. 3, 4 and reference label "16" needs description in fig. 3. Appropriate correction is required.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the quarter wave choke (cls. 4, 16), the steps of the conductor being of different lengths (cl. 7) and the outer conductor being shaped to match the coaxial line impedance (cl. 10), respectively must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The impedance transformer having steps of different length (cl. 7) needs a corresponding description in the specification

Claims 4, 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, is the dependency of this claim from claim "10" as recited proper?

In claim 21, note that it is unclear what specific feature of the transformer has the recited "constant diameter".

The following claims have been found objectionable for reasons set forth below:

In claim 1, line 18, note that "which is formed" should be deleted as being unnecessary.

In claims 6, 7, line 2, of each claim note that --a-- should precede "stepped" for clarity.

In claims 9, 13, 14, 18, 19, note that "fabricated from" should be rephrased as --comprised of-- for an appropriate characterization.

In claim 17, lines 26-28, note that the recitation "wherein said ridge waveguide is terminated by a quarter wave choke" is recited twice, thus rendering one of these recitation as being redundant.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 8, 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Honda et al.

Honda et al (figs. 1, 2) disclose a transition between a coaxial transmission line and a ridge waveguide. As depicted in fig. 2, the transition comprises a probe/transformer arrangement (25) including a coaxial line connector portion which is capable of receiving a coaxial transmission line and a probe/transformer section comprising an inner conductor coaxially surrounded by a dielectric of constant diameter and centrally disposed within ridge (7) of waveguide (1). A probe (31b), which

Art Unit: 2817

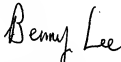
terminates the inner conductor, is located within the ridge waveguide and is electrically connected to the upper waveguide wall (2) through ridge (6).

Note that since a coaxial transmission line has a known characteristic impedance (i.e. 50 ohms), then the probe/transformer arrangement must necessarily and inherently function to match the impedance of the coaxial transmission line at a point/plane of connection (i.e. at the coaxial connector) to the different impedance of the ridge waveguide so as to ensure efficient transfer of electrical signal/energy. Note that plates (8, 9) terminate ends of the ridge waveguides to define corresponding cavities (A, B). Accordingly, as known to those of ordinary skill in the art, the cavity spacing between the probe and corresponding end plate is a quarter wavelength (or multiple thereof) thus inherently defining a quarter wave choke.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (571) 272-1764.

B. Lee/ds

04/19/05

  
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ART UNIT 2817